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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,676	02/25/2002	Charles Edward Anderson IV	1875.1980000	2892

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EXAMINER
AST, FATIMA M

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/080,676	ANDERSON ET AL.
	Examiner	Art Unit
	Fatima Ast	2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 February 2002</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 February 2002</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>27Nov02, 04Oct04</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 20050408

DETAILED ACTION

Drawings

1.   Figure 1 should be designated by a legend such as --Prior Art-- because only

that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid

abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office

action. The objection to the drawings will not be held in abeyance.

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they include the following reference character(s) not mentioned in the

description: 216, 526, 710, 712, 718, 720, 754, 756, 774, 776, 778, 780, 808. Corrected

drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification

to add the reference character(s) in the description in compliance with 37 CFR 1.121(b)

are required in reply to the Office action to avoid abandonment of the application. Any

amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. Each

drawing sheet submitted after the filing date of an application must be labeled in the top

margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the

drawings will not be held in abeyance.

Specification

3.   The disclosure is objected to because of the following informalities: missing serial

number (paragraph 0001 line 3); typographical error, "cable headend 304" should be

"cable headend 306" (paragraph 0040 line 5); typographical error "network gateway

104" should be "network gateway 204" (paragraph 0057 line 10).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1, 2, 12, 17-19, 24, 27 and 28 are rejected under 35 U.S.C. 102(b) as

being anticipated by Eicon (WO 00/27092 EICON Technology Corporation).

6.   Regarding claim 1, Eicon discloses a method for caching domain name system

information in a network gateway (Figure 1 element 10) that includes a customer

premises equipment interface (Figure 1 element 12), a network interface (Figure 1

element 20), and a cache (Figure 1 elements 15 and 16) for storing domain names and

corresponding IP addresses, comprising:

7.   receiving a domain name system query from a customer premises equipment

over the customer premises equipment interface, said query including an unresolved

domain name (page 4, lines 1-11). Eicon teaches requests for numeric address in response to a domain name. Eicon teaches such requests as arriving from CPE which are identified as "stations (page 7 lines 14-16);

8.   determining if said unresolved domain name is stored in the cache (page 7 lines 14-27). Eicon teaches lists of domain names and their corresponding IP addresses stored within the cache;

9.   if said unresolved domain name is stored in the cache, obtaining an IP address corresponding to said unresolved domain name from the cache, generating a response to said query that includes said IP address corresponding to said unresolved domain name, and providing said response to the customer premises equipment interface for transmission to said customer premises equipment (Page 9 lines 11-14); and

10.   if said unresolved domain name is not stored in said cache, providing said query to the network interface for transmission to a network for resolution of said query (page 5 lines 4-11, page 8 lines 3-8).

11.   Claim 17 is for a network gateway that corresponds to claim 1, and is therefore similarly rejected.

12.   Claim 27 is for a computer program product that corresponds to claim 1, and is therefore similarly rejected.

13.   Regarding claims 2, 12, 18, 24 and 28, Eicon discloses receiving a domain name system response from said network over the network interface, said response including a response domain name and an IP address corresponding to said response domain name; storing said response domain name and said IP address corresponding to said

response domain name in the cache; and providing said response to the customer

premises equipment interface for transmission to said customer premises equipment

(page 5 lines 4-11, page 8 lines 1-8). Eicon teaches external DNS returning IP

addresses to the gateway and the gateway making new entries into its cache using the

returned DNS information. Eicon teaches the gateway returning a reply from the

external DNS to the CPE (identified as a "station" or "device" see page 9 lines 11-12).

14.   Regarding claim 19, Eicon discloses said customer premises equipment interface

is a home phoneline network interface, an Ethernet interface, or a Universal Serial Bus

interface (page 6 lines 3-5). Eicon teaches an Ethernet interface to a LAN, said LAN

constituting customer premises equipment.

Claim Rejections - 35 USC § 103

15.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

16.   Claims 16, 26, and 32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Eicon.

17.   Regarding claims 16, 26 and 32, Eicon discloses receiving a domain name

system response from said network over the network interface (as noted in claims 2, 12,

18, 24 and 28 above); if said response includes a response domain name and an IP

address corresponding to said response domain name, storing said response domain

name and said IP address corresponding to said response domain name in the cache

(as noted in claims 2, 12, 18, 24 and 28 above); and providing said response to the customer premises equipment interface for transmission to said customer premises equipment (as noted in claims 2, 12, 18, 24 and 28 above);

18.   Eicon does not specifically enumerate if said response does not include a response domain name and an IP address corresponding to said response domain name, providing said response to the customer premises equipment interface for transmission to said customer premises equipment without storing any information in the cache. Eicon does teach determining if a DNS request fails, and in response to that failure, sending the request to a different external DNS (page 9 lines 16-23). It would have been obvious that the invention of Eicon does not store any information in the cache when the response does not contain a response domain name and an IP address corresponding to said response domain name as Eicon teaches the sending of a subsequent request to a different DNS. It would have been further obvious to provide the response to the customer premises equipment interface as it is known in the art to provide responses without IP addresses when such DNS requests result in an error condition (see RFC 1035).

19.   Claims 3-5 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eicon as applied to claims 1 and 27 above, and further in view of Mogul (US 6,262,987).

20.   Regarding claims 3 and 29, Eicon does not specifically enumerate loading the cache with a preliminary set of domain names and corresponding IP addresses prior to receiving any domain name system queries from the customer premises equipment

interface. Mogul discloses transferring a table of names and address to a cache prior to receiving domain names system queries (column 5 lines 13-40). It would have been obvious to combine the loading of the table of Mogul with the cache of Eicon in order to gain the advantage of reduced latencies associated with translating name-address bindings as taught by Mogul.

21.   Regarding claim 4, Mogul discloses the loading is initiated by an entity on the network (column 5 lines 8-29 where the "collecting site" is the network entity).

22.   Regarding claim 5, Mogul discloses the loading is initiated by the customer premises equipment (column 7 lines 21-26 where the "collecting site" is a customer premises equipment).

23.   Claims 6, 7, 9, 10, 13,14, 22, 23, 25, 30, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eicon as applied to claims 1, 2, 12, 17, 18, 24, 27 and 28 above, and further in view of Buckman (US 2003/0012147 A1).

24.   Regarding claims 6, 9, 13, 22, 23, 25, 30, 31 and 33, Eicon does not specifically enumerate continuously monitoring packets to identify domain names system queries and responses, however Eicon does teach packets being received by the CPE interface and the network interface (page 6 lines 7-17). Buckman discloses continuously monitoring packets received by a network node to identify domain name system queries and responses (paragraph 0023, where the classify engine of the node monitors and classifies packets, paragraph 0027, where the classify engine monitors DNS requests and responses). It would have been obvious to combine the monitoring and identifying of Buckman with the packet traffic of Eicon in order to gain the advantage of readily

recognizing communications between local users on a LAN and also forwarding

requests for external network addresses and keeping an up to date list of DNS replies

as taught by Eicon.

25.   Regarding claims 7, 10 and 14, Buckman discloses examining a protocol header

field of said packets received by the customer premises equipment interface from said

customer premises equipment and by the network interface from said network to identify

domain name system messages (paragraph 0023).

26.   Claims 8, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Eicon in view of Buckman as applied to claims 7, 10 and 14 above above, and

further in view of RFC 1035 (Domain Names – Implementation and Specification;

Mockapeteris, P).

27.   Regarding claims 8, 11 and 15, Eicon in view of Buckman does not specifically

enumerate examining a parameter field of said domain name system messages

received by the customer premises equipment interface from said customer premises

equipment and by the network interface from said network to identify domain name

system queries and responses. RFC 1035 teaches a parameter field, "QR", as a part of

the DNS message header, where the value in the "QR" field identifies the DNS

message as a query or a response (4.1.1 Header Section Format). It would have been

obvious to combine the examination of the header as taught by Buckman (as noted in

claims 7, 10 and 14 above) with the parameter field as taught by RFC 1035 in order to

gain the advantage of distinguishing DNS queries from DNS responses as taught by

RFC 1035.

28.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eicon as

applied to claim 17 above, and further in view of Kasser (Practical Internet; Kasser,

Barbara).

29.   Regarding claim 20, Eicon does not specifically enumerate said network interface

comprises a cable modem system interface. Eicon does teach an ISDN network

interface (Figure 1 element 20). Kasser teaches a cable modem and further teaches

that cable modems are similar to ISDN, both offering digital connections (p 43). It would

have been obvious to combine the cable modem interface of Kasser with the modem of

Eicon because they are similar as taught by Kasser, and further to gain the advantages

of a fast connection as taught by Kasser.

30.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eicon as

applied to claim 17 above, and further in view of Perry (Sams Teach Yourself PCs in 24

Hours; Perry, Greg M.).

31.   Regarding claim 21, Eicon does not specifically enumerate said memory

comprises an SDRAM. Perry discloses SDRAM (pages 72 and 431). It would have

been obvious to combine the SDRAM of Perry with the modem of Eicon in order to gain

the advantages of newer and faster memory as taught by Perry.

Conclusion

32.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

     With regard to DNS caches, and caching in general:

     US 6,016,512 to Huitema

US 6,256,671 B1 to Strentzsch et al.

US 6,532,490 B1 to Lewis et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fatima Ast whose telephone number is (571) 272-7217. The examiner can normally be reached on M-F, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAVID WILEY
SUPERVISORY PATENT EXAMINER
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